



MISSOURI DEPARTMENT OF NATURAL RESOURCES

Guidelines for Municipal Use and Disposal of 2002 Ice Storm Wood Debris

Technical Bulletin

2/2002

Environmental Assistance Office

Recently an ice storm in northwest Missouri, including the Kansas City area, caused many tree branches to break. Individuals, cities, counties, state agencies and private entities are faced with a tremendous volume of wood waste that needs to be put to beneficial use or disposed of. In response to numerous inquiries, the department has the following recommendations.

Note: This guideline covers only ice storm vegetative debris from trees and shrubbery. Debris from storm damaged buildings requires either landfill disposal or managed recycling.

Collection

How you collect the debris, in manageable pieces or chipped on site, will depend on your equipment, your plan for use or disposal and any storage requirements. The Missouri Department of Natural Resources does not regulate the transport of the debris. However, to prevent traffic hazards, care should be taken to prevent the debris from falling out of the transport vehicle during transit.

Storage

It is acceptable to store brush, mulch or chips for short periods (less than six weeks), as long as there is a plan for use or permanent disposal. Check for possible restrictions due to local ordinances.

- Register the temporary collection or storage location with the department by contacting Frank Dolan, (573) 751-5401, Solid Waste Management Program.
- Locate temporary piles so they are easy to monitor to deter illicit dumping. Brush piles should not include other wastes (tires, appliances, household trash).
- Windrows are the easiest and safest way to store large volumes of wood chip. We recommend a maximum height of 10 ft. and width of 20 ft. to minimize internal heating of the pile. Leave adequate space between rows for fire equipment in case of an emergency.

Reuse

Firewood

- For best results, it should dry for six months prior to burning.

Lumber

- Use larger diameter trees, especially high value species such as black oak.
- A list of Missouri wood processors can be found at www.conservation.state.mo.us/forest/products/processors

Haul to wood recycler (call recycler prior to hauling)

- Advanced Composite, Inc., Manhattan, KS (785) 539-5729
- E & B Pallet \$ Recycling Service, St. Louis (314) 629-5695
- Wells Industries Inc., Elsinore (573) 322-5246
- Waste wood fuel broker, Ron Blackwelder, (281) 922-1000 ext. 246, www.woodfuel.com

Brush piles for wildlife (in parks or undeveloped areas)

- Start with a base of several six-inch or larger logs laid with 12-inch spaces between them. Stack more logs in two or three criss-cross layers. Pile brush over to a total height of six to nine feet and a diameter of about 15 feet.

Wood chips/Sawdust:

- **Mulch** for landscape/trees/gardens/reseeding
 - ✓ General use: apply a layer that settles 2- to 4-inches deep.
 - ✓ Fine mulch: apply no more than two inches.
 - ✓ Coarse mulch: apply 4- to 6-inches.
 - ✓ Keep mulch 6- to 12-inches away from base of trees and shrubs.
- **Trail Surface Material**
 - ✓ Minimum application depth three-inches.
- **Erosion control** at construction sites
 - ✓ 10-20 ton/acre (try to cover ground so no soil is exposed).
- **Wind blown dust and runoff control** (on highly erodible farmland)
 - ✓ 15-20 ton/acre, one-inch size chips are optimal size.
- **Compost bulking agent**
- **Soil amendment** for timberland/crops/grassland
 - ✓ The application rate for timberland should not exceed a two-inch depth for a one-time application.
 - ✓ The rate for tilled cropland, 2- to 6-inch depth for a one-time application, incorporate within one week after application. Soil nutrients should be checked and fertilizer added as needed.
 - ✓ The rate for grass land up to a one-inch depth for a one-time application.
 - ✓ Adhering to these guidelines will exempt organizations from the requirements for storm water permitting of such wood waste operations during this period of crisis – until May 31, 2002.

Burning the Debris

A Permit is required for cities to burn ice storm debris.

Permit Jurisdiction

- Kansas City Air Quality issues permits in the city limits of Kansas City.
- The department's Kansas City Regional Office issues permits in the rest of the Kansas City Metro Area (includes Buchanan, Cass, Clay, Jackson, Platte, and Ray counties) and for the other counties in their region.
- The department's Northeast Regional Office issues permits for counties in their region.
- Approval of local fire control authority must be demonstrated with application for burning permit.

Kansas City Metro Area Permits

- Burning is not allowed during air pollution alerts. The permit application has a phone number to call to check for alerts.
- An air curtain destructor may be required.
- The times of day when burning takes place are restricted.
- The fire must be out and pit covered by end of allowed burning period.
- Usable wood (firewood, saw logs) must not be burned.

Fire Management

- Information on fire management can be found at www.conservation.state.mo.us/forest/fire.

Wood Ash Disposal

Recommended ash handling procedures in order of preference:

- Land Application or composting – with proper incorporation into the soil or compost pile
- Burial in the burn pits – with provisions for proper cover, including a hearty stand of vegetation to prevent excessive erosion.
- Disposal in a landfill – with procedures to cool or completely wet the ash before disposal, to prevent landfill fires. Call the landfill before hauling to minimize the chance that a load will be rejected.

Dispose of Debris in a Landfill

Yard waste ban at landfills is temporarily waived **for ice storm debris**.

- Ice storm debris will not be considered yard waste and will not be banned from disposal at landfills from now **until March 15, 2002**.
- Landfill operators will not have to pay the tonnage fee on ice storm debris disposed of in landfills during this period, if they accept it free of charge.
- Fees remain in place for waste not related to the ice storm
- Landfill operators who charge tipping fees for ice storm debris must continue to collect and remit tonnage fees for all ice storm debris and municipal wastes they accept.
- During the ice storm cleanup, permitted landfills, transfer stations, and other processing facilities may accumulate, store and process ice-storm debris upon registration with the department. Permit modifications will not be required.
- Register with the department by contacting Frank Dolan, (573) 751-5401, DNR Solid Waste Management Program.
- Commercial entities wishing to carry out ice-storm debris processing activities must obtain the necessary permits unless they are providing their services through contractual arrangement with an established, permitted solid waste facility or with a political subdivision of the state at a registered site.

For More Information Please Contact:

Missouri Department of Natural Resources

Kansas City Regional Office
500 NE Colbern Rd
Lee's Summit, MO 64086-4710
Phone: (816) 622-7000 or
1-800-361-4827
www.dnr.state.mo.us

Northeast Regional Office
1709 Prospect Dr. Ste. A
Macon, MO 63552-2602
Phone: (660) 385-2129 or
1-800-361-4827
www.dnr.state.mo.us

Municipal/Ice Storm Internet Resources:

Storm Over the Urban Forest: Planning, Responding, and Regreening—A Community Guide to Natural Disaster Relief at www.na.fs.fed.us/spfo/pubs/uf/sotuf/sotuf.htm

Utilizing Municipal Trees: Ideas From Across The Country at www.na.fs.fed.us/spfo/pubs/misc/umt/index.htm

Recycling Municipal Trees: A Guide for Marketing Sawlogs from Street Tree Removals in Municipalities at www.fs.fed.us/na/morgantown/frm/cesa/rmt/rmt_index.html

Trees and Ice Storms: The Development of Ice Storm Resistant Urban Tree Populations at www.ag.uiuc.edu/~vista/pdf_pubs/ICESTORM.PDF

Recovery of Ice-Storm Damaged Trees, #9013 at www.umext.maine.edu/emergency/9013.htm

How to Care for Ice-Damaged Trees at www.urbanext.uiuc.edu/icedamage/